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AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1.   (Cancelled).

2.   (Cancelled).

3.   (Cancelled).

4.   (Cancelled).

5.   (Cancelled).

6.   (Cancelled).

7.   (Cancelled).

8.   (Cancelled).

9.   (Cancelled).

10.   (Cancelled).

11.   (Cancelled).

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12.   (Cancelled).

13.   (Cancelled).

14.   (Cancelled).

15.   (Cancelled).

16.   (Cancelled).

17.   (Cancelled).

18.   (Cancelled).

19.   (Cancelled).

20.   (Cancelled).

21.   (Cancelled).

22.   (Cancelled).

23.   (Previously Presented) A method for dynamically optimizing error
control within a network using an asynchronous transfer mode protocol, the
method comprising:

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- determining whether a selected data transmission includes time critical or quality critical data;
- parsing at least a portion of the quality critical data into automatic retransmit request packet data units ("ARQ-PDUs");
- modifying a payload length of the ARQ-PDUs based on quality of a data link assigned to carry the selected data transmission in order to improve throughput efficiency; and
- retransmitting, upon satisfaction of a preselected criteria, the quality critical data in order to ensure that said data reaches its destination.

24.   (Previously Presented) The method of claim 23 further comprising the step of measuring the quality of the data link assigned to carry the selected data transmission.

25.   (Previously Presented) The method of claim 24 in which the quality measuring is performed by analyzing either (1) information received from a destination receiver within the ATM network or (2) statistics indicating the error rate of transmitted ARQ-PDUs.

26.   (Previously Presented) The method of claim 24 in which the payload length ("L") is calculated as follows: L=48*i-4, wherein i is the sum of the header and trailer for the selected ARQ-PDUs to be transmitted.

27.   (Previously Presented) The method of claim 24 further comprising the step of updating a generation rate of control packets based on the modified payload length.

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28.   (Previously Presented) The method of claim 24 further comprising the step of transmitting periodic control messages that describe the success or failure of a particular quality critical data transmission.

29.   (Previously Presented) The method of claim 23 further comprising the step of applying to time critical data a forward error correction encoding scheme that varies according to the quality of the data link.

30.   (Previously Presented) The method of claim 24 further comprising the step of determining the quality of service requirements associated with the selected data transmission.

31.   (Previously Presented) The method of claim 30 further comprising the step of determining the number of attempts to retransmit a particular quality critical data transmission based upon the determined quality of service requirement associated with the selected data transmission.

32.   (Previously Presented) A system deployed in a network having a data sender, a data receiver, and a wireless transmission device, the system comprising:

- a first asynchronous transfer mode adaptation layer that delivers quality critical data from the data sender to a network device;
- a second asynchronous transfer mode adaptation layer that delivers time-critical data from the data sender to a network device; and

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- an error control module that modifies the payload length of the data, that encodes the data by applying a forward error correction (FEC) encoding scheme to the data, wherein the modification of the payload length and the encoding of the data are adaptive and based on quality of service requirements of the data, so that data associated with a first quality of service requirement is encoded using a first FEC encoding scheme and has a first payload length and data associated with a second quality of service requirement is encoded using a second FEC encoding scheme and has a second payload length, and that outputs the data to the wireless transmission device.

33.   (Previously Presented) The system according to claim 32 further comprising a protocol converter module that separates network data traffic by data type.

34.   (Previously Presented) The system according to claim 33 in which the data type is the quality of service level for the data.

35.   (Previously Presented) The system according to claim 32 in which the error control module is adapted to determine whether selected criteria are satisfied and thereafter retransmit quality critical data in order to ensure delivery.

36.   (Previously Presented) The system according to claim 35 wherein the first asynchronous transfer mode adaptation layer is coupled to an IP stack

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providing the time-critical or quality-critical data in the form of an IP packet
and further comprises a first sublayer that creates a data unit containing the
IP packet.

37.   (Cancelled).

38.   (Cancelled).

39.   (Cancelled).

40.   (Cancelled).

41.   (Previously Presented) The method or system of claim 29 in which the
forward error correction encoding scheme is selected from the group consisting
of (a) a Reed-Solomon forward error correction scheme; (b) a convolutional
forward error correction scheme; (c) a Turbo Product Code error correction
scheme; and (d) any combination of the foregoing.

42.   (Cancelled).

43.   (Cancelled).

44.   (Cancelled).

45.   (Cancelled).

46.   (Cancelled).

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47.   (Cancelled).

48.   (Cancelled).

49.   (Cancelled).

50.   (Cancelled).

51.   (Cancelled).

52.   (Cancelled).